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May 11, 2016

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**Subject: Brookmeadow Village
As-Built Plan, Road Acceptance Plan and Legal Description Review**

Dear Joe:

We received the following documents in our office April 1, 2016:

- Plans entitled As-Built Plan of Land of Brookmeadow Lane and Taft Mill Road in Grafton, Mass. dated March 25, 2016, prepared by Guerriere & Halnon, Inc. for Brookmeadow Village, LLC (6 Sheets)
- Plans entitled As-Built Profile of Brookmeadow Lane Showing Sewer Main and Storm Drain in "Brookmeadow Village", Grafton, Mass. dated March 25, 2016, prepared by Guerriere & Halnon, Inc. for Brookmeadow Village, LLC (2 Sheets)
- Plans entitled As-Built Profile of Taft Mill Road Showing Sewer Main and Storm Drain in "Brookmeadow Village", Grafton, Mass. dated March 25, 2016, prepared by Guerriere & Halnon, Inc. for Brookmeadow Village, LLC (3 Sheets)
- Plans entitled Plan of Brookmeadow Lane and Taft Mill Road in Grafton, Mass. dated March 25, 2016, prepared by Guerriere & Halnon, Inc. for Brookmeadow Village, LLC (6 Sheets)
- Legal descriptions for Brookmeadow Lane, Taft Mill Road, and Drainage Easement 1, undated.
- Legal descriptions dated March 29, 2016 for Drain Easement 2, Drain Easement 3, and Drain Easement 4

We also considered for this review the following information:

- Plans entitled "Brookmeadow Village, a Definitive Plan of a Flexible Development in Grafton, Massachusetts" dated July 20, 2005, last revised December 7, 2006, prepared by Guerriere & Halnon, Inc. for Brookmeadow Village, LLC. (55 sheets)

Graves Engineering, Inc. (GEI) was requested to review the as-built plans, acceptance plans and legal descriptions for compliance with Rules and Regulations Governing the Subdivision of Land, Grafton, Massachusetts and for substantial conformance with the approved definitive plans.

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Our comments follow:

As-Built Plan Review

1. Based upon information presented on the as-built plans and our visual observations during the construction phase of the project, it appears that the project was constructed substantially in accordance with the approved plans and approved modifications.
2. A north arrow must be provided on the as-built plans.
3. The note pertaining to the Town meeting date refers to Pratt Street; Pratt Street must be deleted.
4. The plans must include the locations of the main line of the electric, telephone, and cable conduits. (SR&R §3.3.11.2.e)
5. The plans must include the locations of the subdrains that were installed along the edges of the road. (SR&R §3.3.11.2.e)
6. The locations of water valves must be shown on the plans. (SR&R §3.3.11.2.e)
7. On Sheet 1, the property line/easement line separating Drainage Easement #2 from land n/f Burrill is missing.
8. On Sheet 1, there is text covering the invert elevations on the WQMH located on the west side of Brookmeadow In (Sta. 0+25). The plans must be revised so that all invert elevations are legible.
9. On Sheet 1, the outlet pipe diameter was shown as 18-inch at the Brookmeadow Lane Station 2+36 manhole whereas the pipe was labeled as 12-inch diameter elsewhere on the plans and profiles.
10. The sewer manhole invert elevations were provided on the profile sheets but not on the as-built sheets (plan views). We understand that the sewer system is being reviewed by the Grafton Sewer Department. We don't have an issue with the elevations being on the profile sheets as long as that's also acceptable to the Grafton Sewer Department.
11. On Sheet 2, the drain manhole invert elevations (at Sta. 12+85 on Taft Mill Road) were cut off from the viewport. The plans must be revised to include the inverts for this drain manhole.
12. On Sheet 3 in Drainage Basin #1 (Drainage Easement #4) at the drain manhole just prior to the outlet, both inlets were labeled as 8-inch in size. It appears that one inlet should be 8-inch in size and the other inlet should be 18-inch in size.
13. On Sheet 3 in Drainage Basin #2 (Drainage Easement #3) at the drain manhole just prior to the outlet, the rim elevation of 418.43 appears to be a typographic error. The plans must be revised so that all rim elevations are correct.

14. On Sheet 4, at the catch basin on the west side of Taft Mill Road (Sta. 20+50) the leader is not pointing to the catch basin. The plans must be revised so the leader is pointing to the appropriate catch basin.
15. The road's base lines were not shown on Sheets 1 and 3.
16. The rim and inlet elevations shown on the profile view for the drain manhole at Sta. 4+89 on Brookmeadow lane do not appear to be correct. The elevations need to be rechecked and revised accordingly.
17. The main line inlet and outlet elevations listed for the drain manhole at Sta. 14+55 on Brookmeadow Lane on the plan view sheet are not consistent with those listed on the profile sheet. The information must be consistent.
18. The slope shown on the Brookmeadow Lane profile view sheet is incorrect between DMH 4+89 and DMH 7+35.
19. The pipe on Taft Mill Road between the drain manhole at Sta. 5+39 and Sta. 6+50 is shown as a 24-inch pipe on the profile view and as an 18-inch pipe on the plan view. The information must be consistent.
20. On the Taft Mill profile sheet at the drain manhole at Sta. 22+29, the upgradient pipe with a slope of 0.017 must be relabeled as 12-inch instead of 18-inch, the 18-inch pipe connected to the drain manhole at Sta. 22+44 must be shown, and the bottom of the manhole was drawn much higher than the outlet pipe elevation of 441.82

Acceptance Plan Review

21. On Sheet 1 the following bearings, lengths, radii of curvature, and/or central angles were inconsistent with the definitive plans: length (62.36) at Sta. 328+00 (Providence Road); lengths (32.01 and 114.59) at Sta. 0+00 (Brookmeadow Lane); length (32.18) and bearing (N46°48'49"W) at Sta. 0+25 (Brookmeadow Lane); length (213.07) at Sta. 1+60 (Brookmeadow Lane); central angle (4°24'02") at Sta. 2+60 (Brookmeadow Lane); length (173.34) and bearing (N44°48'23"W) at Sta. 2+75 (Brookmeadow Lane); length (25.04) and central angle (2°44'07") at Sta. 2+90 (Brookmeadow Lane); radius of curvature (474.42), length (90.60) and central angle (10°56'31") at Sta. 3+00 (Brookmeadow Lane); length (182.70) and bearing (S44°48'23"E) at Sta. 3+05 (Brookmeadow Lane); length (99.79) near Sta. 3+25 (Brookmeadow Lane); lengths (256.74 and 191.42), radius of curvature (524.42) and central angles (28°03'00" and 20°54'51") at Sta. 3+50 (Brookmeadow Lane); length (93.99) and central angle (11°21'02") at Sta. 4+00 (Brookmeadow Lane); lengths (232.26, 47.97, and 76.18) and central angle (28°03'00") at Sta. 4+25 (Brookmeadow Lane); length (47.67) and central angle (5°45'27") at Sta. 4+50 (Brookmeadow Lane); length (3.42) at Sta. 4+90 (Brookmeadow Lane); length (199.96) at Sta. 5+80 (Brookmeadow Lane); length (199.96) and bearing (S19°55'53"W) at Sta. 6+00 (Brookmeadow Lane); length (387.79) at Sta. 7+40 (Brookmeadow Lane); and length (387.79) at Sta. 7+50 (Brookmeadow Lane). It appears these changes are the result of recalculations and minor adjustments to the layout. The surveyor should confirm if this is the case.

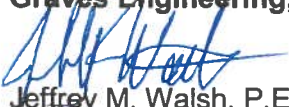
22. We understand that the project's open space parcels have already been conveyed to the Town of Grafton. Sheet 4 of the definitive plans included a 20 foot wide sight line easement on the open space parcels at the intersection of Taft Mill Road and Milford Road. Whereas at the Town now owns the parcels on which the easements are located, we trust that the Town has the right to maintain sight lines within these easement areas.

Legal Descriptions

23. Taft Mill Road – The 8th entry refers to "...De Raimés to a drill hole in a granite bound...". The point is actually an iron rod set in concrete; the legal description needs to reference the iron rod instead.
24. Taft Mill Road – The 13th entry states that the parcel adjacent to Brookmeadow Lane belongs to Brookmeadow Village LLC. This lot is shown to be owned by n/f Kevin R. O'Donnell.
25. Taft Mill Road – The bearing listed in the 27th entry (S82°11'08"E) is not consistent with the acceptance plans. The reference to east should instead be to west.
26. Drainage Easement 1 – The area listed in the last entry (8.388 square feet) is not consistent with the acceptance plans. The decimal is a typographic error and needs to be replaced by a comma.
27. Drain Easement 2 – The length listed in the 6th entry (182.70 feet) is not consistent with the acceptance plans.
28. Drain Easement 4 – The 1st entry states that the parcel belongs to Eisenberg. The spelling of the owner's name is not consistent with Sheet 3 of the Acceptance Plans.

We trust this letter addresses your review requirements. Feel free to contact this office if you have any questions or comments.

Very truly yours,
Graves Engineering, Inc.


Jeffrey M. Walsh, P.E.
Vice President

Cc: David Crouse; Grafton Department of Public Works ✓
Brian Szczurko; Grafton Engineering Department
Normand Gamache, Jr., PLS; Guerriere & Halnon, Inc.
W. Greg Burrill; W.G.B. Construction